

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Currently amended) A method for inhibiting apoptosis in a cell, the method comprising:
determining an effective amount of an apoptosis inhibitor effective to inhibit apoptosis in the cell;

wherein an apoptosis inhibitor is selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;

contacting the cell with the effective amount of an apoptosis inhibitor;

wherein the constituent peptide of colostrinin is selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLPFQVQS (SEQ ID NO:3), LFFFLPVNVLP (SEQ ID NO:4), DLEMPVLVPEFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), and LKPFPKLKVEVFPP (SEQ ID NO: 8), VVMEV (SEQ ID NO:9), SEOP (SEQ ID NO:10), DKE (SEQ ID NO:11), FPPPK (SEQ ID NO:12), DSQPPV (SEQ ID NO:13), DPPPPQS (SEQ ID NO:14), SEEMP (SEQ ID NO:15), KYKLOPE (SEQ ID NO:16), VLPPNVG (SEQ ID NO:17), VYPFTGPIPN (SEQ ID NO:18), SLPONILPL (SEQ ID NO:19), TQTPVVVPPF (SEQ ID NO:20), LQPEIMGVPKVKETMVPK (SEQ ID NO:21), HKEMPFKYPVEPFOTESQ (SEQ ID NO:22), SLTLTDVEKLHLPLPLVQ (SEQ ID NO:23), SWMHQP (SEQ ID NO:24), QPLPPTVMFP (SEQ ID NO:25), QSVLS (SEQ ID NO:26), LSQPKVLPVPOKAVPORDMPIQ (SEQ ID NO:27), AFLLYQE (SEQ ID NO:28), RGPFPILV (SEQ ID NO:29), ATFNRYQDDHGEEILKSL (SEQ ID NO:30), VESYVPLFP (SEQ ID NO:31), FLLYQEPVLGPVR (SEQ ID NO:32), LNF (SEQ ID NO:33), and MHQPQPLPPTVMFP (SEQ ID NO:34);

and wherein the apoptosis inhibitor inhibits apoptosis in the cell.

Amendment and Response

Serial No.: 10/691,330

Confirmation No.: 1384

Filed: October 22, 2003

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2. (Original) The method of claim 1 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.
3. (Original) The method of claim 1 wherein the cell is a mammalian cell.
4. (Original) The method of claim 3 wherein the cell is a human cell.
5. (Previously Presented) The method of claim 1 wherein the inhibitor is colostrinin.
6. (Currently amended) The method of claim 1 wherein the inhibitor is a constituent peptide of colostrinin selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLPFQVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPQETVT (SEQ ID NO:7), LKPFKPKLVEVFPP (SEQ ID NO:8), VVMEV (SEQ ID NO:9), SEOP (SEQ ID NO:10), DKE (SEQ ID NO:11), FPPPK (SEQ ID NO:12), DSQPPV (SEQ ID NO:13), DPPPQS (SEQ ID NO:14), SEEMP (SEQ ID NO:15), KYKLOPE (SEQ ID NO:16), VLPPNVG (SEQ ID NO:17), VYPFTGPIPN (SEQ ID NO:18), SLPQNILPL (SEQ ID NO:19), TOTPVVPPF (SEQ ID NO:20), LQPEIMGVPKVKETMPVK (SEQ ID NO:21), HKEMFPFKYPVEPFTESQ (SEQ ID NO:22), SLTLTDVEKLHLPLPLVQ (SEQ ID NO:23), SWMHOPP (SEQ ID NO:24), OPLPPTVMFP (SEQ ID NO:25), PQSVLS (SEQ ID NO:26), LSQPKVLPVQKAVPQDMPIQ (SEQ ID NO:27), AFLLYQE (SEQ ID NO:28), RGFPPILV (SEQ ID NO:29), ATFNR YQDDHGEEILKSL (SEQ ID NO:30), VESYVPLFP (SEQ ID NO:31), FLLYQEPVLGPVR (SEQ ID NO:32), LNF (SEQ ID NO:33), MHOPPOPLPPTVMFP (SEQ ID NO:34), and combinations thereof.
7. (Canceled)

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8. (Previously Presented) The method of claim 1 wherein the apoptosis is due to DNA damage.

9-11. (Canceled)

12. (Currently amended) A method for protecting against DNA damage in a cell, the method comprising:

determining an effective amount of a compound effective to protect against DNA damage in the cell, wherein the compound is selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;

contacting the cell with an effective amount of the compound;

wherein the constituent peptide of colostrinin is selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLPFQVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), and LKPPFKLKVEVFPFP (SEQ ID NO: 8), VYMEV (SEQ ID NO:9), SEOP (SEQ ID NO:10), DKE (SEQ ID NO:11), FPPPK (SEQ ID NO:12), DSQPPV (SEQ ID NO:13), DPPPPQS (SEQ ID NO:14), SEEMP (SEQ ID NO:15), KYKLOPE (SEQ ID NO:16), VLPNVG (SEQ ID NO:17), VYPFTGPIPN (SEQ ID NO:18), SLPONILPL (SEQ ID NO:19), TOTPVVPPF (SEQ ID NO:20), LOPEIMGVVKETMVPK (SEQ ID NO:21), HKEMPPFKYPVEFTESQ (SEQ ID NO:22), SLTLTDVEKLHLPLPLVQ (SEQ ID NO:23), SWMHQPP (SEQ ID NO:24), QPLPPTVMFP (SEQ ID NO:25), PQSVLS (SEQ ID NO:26), LSQPKVLPVQKAVPQDMPIQ (SEQ ID NO:27), AFLLYQE (SEQ ID NO:28), RGFPPILV (SEQ ID NO:29), ATFNRYQDDHGEEILKSL (SEQ ID NO:30), VESYVPLFP (SEQ ID NO:31), FLLYQEPVLGPVR (SEQ ID NO:32), LNF (SEQ ID NO:33), and MHQPPQPLPPTVMFP (SEQ ID NO:34);

and wherein the compound protects the cell against DNA damage.

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13. (Original) The method of claim 12 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.

14. (Original) The method of claim 12 wherein the cell is a mammalian cell.

15. (Original) The method of claim 14 wherein the cell is a human cell.

16-26. (Canceled)

27. (Currently amended) A method for reducing ~~the toxic effect of~~ β -amyloid induced apoptosis in ~~in~~ [[on]] a cell, the method comprising;

determining an effective amount of a compound effective to reduce ~~the toxic effect of~~ β -amyloid induced apoptosis in ~~in~~ [[on]] the cell, wherein the compound is selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;

contacting the cell with an effective amount of the compound;

wherein the constituent peptide of colostrinin is selected from the group consisting of

~~SEQ ID NO:1-8~~ MQPPPLP (SEQ ID NO:1), LOTPOPLLQVMMEPOGD (SEQ ID NO:2), DOPPDVEKPDLOPFOVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEPFPPV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPOETVT (SEQ ID NO:7), and LKPFPLKLVVFPPF (SEQ ID NO: 8), VVMEV (SEQ ID NO:9), SEQP (SEQ ID NO:10), DKE (SEQ ID NO:11), FPPPK (SEQ ID NO:12), DSQPPV (SEQ ID NO:13), DPPPQS (SEQ ID NO:14), SEEMP (SEQ ID NO:15), KYKLOPE (SEQ ID NO:16), VLPPNVG (SEQ ID NO:17), VYPFTGPIPN (SEQ ID NO:18), SLPQNILPL (SEQ ID NO:19), TOTPVVPPF (SEQ ID NO:20), LQPEIMGVPKVKETMVPK (SEQ ID NO:21), HKEMFPKYPVEPFETESQ (SEQ ID NO:22), SLTLTDVEKLHLPLPLVQ (SEQ ID NO:23), SWMHQPP (SEQ ID NO:24), QLPPTVMFP (SEQ ID NO:25), PQSVLS (SEQ ID NO:26), LSQPKVLPVPQKAVPQRDMPIQ (SEQ ID NO:27), AFLLYQE (SEQ ID NO:28),

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RGPFPILV (SEQ ID NO:29), ATFNRYODDHGEEILKSL (SEQ ID NO:30), VESYVPLFP (SEQ ID NO:31), FLLYQEPVLGPVR (SEQ ID NO:32), LNF (SEQ ID NO:33), and MHQPPQPLPPTVMFP (SEQ ID NO:34); and

wherein the compound reduces ~~the toxic effect of~~ β -amyloid induced apoptosis in ~~[[on]]~~ the cell.

28. (Currently amended) A method for reducing ~~the toxic effect of~~ retinoic acid induced apoptosis in ~~[[on]]~~ a cell, the method comprising;

determining an effective amount of a compound effective to reduce ~~the toxic effect of~~ retinoic acid induced apoptosis in ~~[[on]]~~ the cell, wherein the compound is selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;

contacting the cell with an effective amount of the compound;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:1-8 MOPPPLP (SEQ ID NO:1), LOTPOPLLQVMMEPOGD (SEQ ID NO:2), DOPPDVEKPDLOPFOVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLVPVEPFV (SEQ ID NO:5), MPONFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), LKPPFKLKVEVFPFP (SEQ ID NO: 8), VVMEV (SEQ ID NO:9), SEQP (SEQ ID NO:10), DKE (SEQ ID NO:11), FPPPK (SEQ ID NO:12), DSOPPV (SEQ ID NO:13), DPPPPQS (SEQ ID NO:14), SEEMP (SEQ ID NO:15), KYKLOPE (SEQ ID NO:16), VLPPNVG (SEQ ID NO:17), VYPFTGPIPN (SEQ ID NO:18), SLPQNLPL (SEQ ID NO:19), TOTPVVVPF (SEQ ID NO:20), LQPEIMGVPKVKETMVPK (SEQ ID NO:21), HKEMPFKYPVEPFESQ (SEQ ID NO:22), SLTLTDVEKLHLPLPLVQ (SEQ ID NO:23), SWMHQPP (SEQ ID NO:24), QPLPPTVMFP (SEQ ID NO:25), POSVLS (SEQ ID NO:26), LSOPKVLVPQKAVPQDMPIQ (SEQ ID NO:27), AFLLYQE (SEQ ID NO:28), RGPFPILV (SEQ ID NO:29), ATFNRYODDHGEEILKSL (SEQ ID NO:30), VESYVPLFP (SEQ ID NO:31), FLLYQEPVLGPVR (SEQ ID NO:32), LNF (SEQ ID NO:33), and MHQPPQPLPPTVMFP (SEQ ID NO:34); and

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wherein the compound reduces ~~the toxic effect of~~ retinoic acid induced apoptosis in
[[on]] the cell.

29-32. (Cancel)

33. (Previously Presented) The method of claim 27 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.

34. (Previously Presented) The method of claim 27 wherein the cell is a mammalian cell.

35. (Previously Presented) The method of claim 34 wherein the cell is a human cell.

36. (Previously Presented) The method of claim 28 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.

37. (Previously Presented) The method of claim 28 wherein the cell is a mammalian cell.

38. (Previously Presented) The method of claim 37 wherein the cell is a human cell.